

REMARKS

In the amendment filed and entered on January, 2004 the independent claims 19 and 28 were amended to recite "no more than about 1%" germanium. In response to the suggestions in the Final Rejection mailed July 8, 2005, Applicants have also amended the independent claims 19 and 28 to recite that the germanium is added as doping and forms a low germanium etch stop. Applicants thank the Examiner for this suggestion.

The Examiner has rejected claims 19-21 and 28-30 under 35 U.S.C. §103 as obvious over Wu et al. (hereinafter Wu) in view of Radamson et al. (hereinafter Radamson). Applicants respectfully traverse this rejection for the following reasons.

As noted by the Examiner, Wu does not suggest or disclose the instantly claimed formation of a strain compensated p⁺ layer. Wu has no strain compensated layer and Wu does not have an etch stop until Wu has a Si-Ge alloy. This has never been controverted but the difference between the reference and the instant claims is further accentuated by the amendments as suggested by the Examiner. Wu does not have a low Ge doped etch stop. Applicants do. The difference between an alloy of Si-Ge and a Ge doped Si wafer cannot be ignored. This is the difference in kind between the prior art and the instant claims. When the limitation of the amount of Ge doping is included in the claims, as it should be, Wu cannot be read to suggest the claimed invention.

Radamson is cited (page 1397, left hand column) to show that Ge concentrations result in a strain compensated layer. However, Radamson in fact teaches that Si-Ge alloys contain strain and Radamson adds Boron as a dopant to compensate for the strain. Claims 19 and 28, by contrast, recite that a p⁺ layer is placed on the first side of said substrate, said p⁺ having a boron content of greater than $7 \times 10^{19} \text{ cm}^{-3}$ to produce a strain compensated p⁺ layer and a germanium content of no more than about $1 \times 10^{21} \text{ cm}^{-3}$ in which the germanium is now recited as being a doping agent that forms a low germanium etch stop. Again it is critical to consider the limitation of Ge doping levels in the instant claims. Radamson uses boron to strain compensate a Si-Ge alloy. Ge is NOT used to dope Si to create a strain compensated p⁺ layer.

Thus a reading of both references, alone or in combination, relates only to Si-Ge alloys and not to lightly doped silicon as claimed herein. One skilled in the art would see both

Wu and Radamson as relating only to Si-Ge alloys and not to Si wafers that are only doped with a small amount of Ge to form a low germanium etch stop. The materials are different in kind. To modify either Wu or Radamson to reject the taught Si-Ge alloy and resort to a Si wafer with not enough Ge to form an alloy is improper. Even then, there is absolutely no suggestion in either reference that once the improper elimination of a Si-Ge alloy in favor of a Si doped wafer one skilled in the art would even consider adding boron to relieve stress at the p+ layer.

Reconsideration of the rejections and allowance of the claims is earnestly urged. The critical nature of this limitation is that one obtains a strain compensated p+ layer that functions as a low germanium etch stop with Ge doped Si and NOT with a Si-Ge alloy. This doping is not disclosed or suggested anywhere in any of the art of record. The Examiner has also cited other references to show various devices recited in the other pending claims. A review of those references clearly shows that none of them remedy the deficiencies of the combination of Wu and Radamson as noted above.


In the Final Office Action mailed July 8, 2005, the Examiner states at the bottom of page 8 of the Action that "Assuming *arguendo* that Applicants' have recited in the claims Si-Ge alloy functions as an etch stop...etc." Emphasis is added under the word "alloy" because while Radamson forms an alloy, Applicants do not form an alloy. A germanium doped silicon wafer forming a low germanium etch stop is not an alloy.

It is respectfully requested that the Examiner consider the amendments and remarks herein, and pass this application to issue. If the Examiner considers this case ready for conclusion, other than by allowance, he is respectfully requested to call Applicant's attorney at the number listed below.

DATE: October 18, 2005

Respectfully submitted,
Robert Horning et al.
By their Attorney

Telephone:
(763) 444-8296
FAX
(763) 444-8781



John S. Munday
Law Offices of John S. Munday
PO BOX 423
Isanti, MN 55040

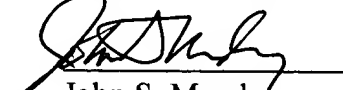


CERTIFICATE OF MAILING

I hereby certify that the attached correspondence is being deposited with the United States Postal Service and First Class Mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on the date appearing below.

DATE: 10/18/2005

Respectfully submitted,


John S. Munday